

mockingbird for love. Then there are the plaintive singers, the soaring ecstatic singers, the confident singers, the gushing and voluble singers, the half-voiced, inarticulate singers. The note of the wood pewee is a human sigh; the chickadee has a call full of unspeakable tenderness and fidelity. There is pride in the song of the tanager, and vanity in that of the catbird. There is something distinctly human about the robin; his is the note of boyhood."

This is nature writing at its best, and Miss Wiley has given us 294 pages of it! Our thanks to Miss Wiley -- and our thanks to Mr. Jaques for the 17 completely appropriate full-page silhouette sketches and 11 vignettes scattered through the text. These completely capture the spirit of John Burroughs -- and that is high praise indeed!

*"John Burroughs' America: selections from the writings of the Hudson River naturalist", edited and with an introduction by Farida A. Wiley; foreword by Julian Burroughs; illustrated by Francis Lee Jaques. i--xv, 1--304 pp., illustr. 1951.

ADDITIONAL NOTES ON THE ERIOCAULACEAE. VIII

Harold N. Moldenke

PAEPALANTHUS ALSINOIDES var. MINIMUS Jennings

The Shafer collection cited below was distributed as Dupatya alsinoides.

Additional citations: CUBA: Pinar del Río: Carabia 996 (Cr, N); Shafer 10682 (Cm). ISLA DE PINOS: Britton, Britton, & Wilson 14144 (Cm); Carabia 1153 (Cr, N), 3994 (Cr, N), s.n. [León 17894] (N); León & Victorin 17894 (Ha), 13852 (Ha).

PAEPALANTHUS AMOENUS (Bong.) Körn.

Additional citations: BRAZIL: Minas Geraes: P. Clausen 16 (N, N), 267, in part (N); Mello Barreto 2491 [Herb. Jard. Bot. Bello Horiz. 4053] (N).

PAEPALANTHUS ANDICOLA Körn.

The species has been collected at altitudes of 2500 to 3500 meters, in anthesis in October.

Additional citations: ECUADOR: Loja: Steyermark 54409 (N), 54413 (N), 54414 (N).

PAEPALANTHUS ANDICOLA var. VILLOSUS Moldenke

Citations: COLOMBIA: Cundinamarca: Haught 5878 (N--type).

PAEPALANTHUS ARCHERI Moldenke

This species is known thus far only from an altitude of 1800 meters in the Cerra do Cipó, in anthesis in August.

Additional citations: BRAZIL: Minas Geraes: Archer 3677 (N--photo of type, W--1705663--type, Z--photo of type).

PAEPALANTHUS ARGENTEUS (Bong.) Körn.

Additional citations: BRAZIL: Minas Geraes: Sampaio 6845 [Herb. Jard. Bot. Belo Horiz. 12338] (Ja--47650, N).

PAEPALANTHUS ARGYROLINON Körn.

Additional citations: BRAZIL: Minas Geraes: G. Gardner 5260 (N--isotype).

PAEPALANTHUS ASPER Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Silveira 350 (Vi-15834--isotype).

PAEPALANTHUS ATER Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Silveira 329 (Vi-15843).

PAEPALANTHUS AUGUSTUS Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Silveira 373 (Vi-15842--isotype).

PAEPALANTHUS BALANSAE Ruhl.

Original description: Engl., Das Pflanzenreich 4 (30): 151. 1903 -- not 1902, as sometimes stated.

PAEPALANTHUS BARBULATUS Herzog

This species, according to Luetzelburg, Estudo Botanico do Nordeste 3: 148 (1923), is known only from Serra des Almas and Alto Rio Bromado and Rio de Contas in central Bahia. It is said to be typical of the carrasco and rare in the campinas.

PAEPALANTHUS BARKLEYI Moldenke

Additional citations: COLOMBIA: Antioquia: F. A. Barkley 18A100 (N--type), 18A147 (N).

PAEPALANTHUS BIFIDUS (Schrad.) Kunth

A synonym is Eupaepalanthus schraderei Körn. ex V. A. Pouls., Vidensk. Meddel. Kjøbenhavn 1888: 332 (1888). Specimens of this species have been variously mis-identified or distributed as P. bifidus Kunth, P. caulescens Kunth, P. schraderei Körn., Syngonanthus caulescens Ruhl., Eriocaulon congestum H.B.K., E. fasciculatum Lam., E. pygmaeum Mart., and E. villosum Salzm. According to Luetzelburg, Estudo Botanico do Nordeste 3: 148 (1923) it is typical of the "brejo" at Serra de Pintoba and "achoeira Escura" on the Rio Doce in Espiritu Santo. Miss Mexia collected it at an altitude of 1250 meters. It has been found both in dry soil and in open wet sand along forest roads and in and about villages.

It has been collected in anthesis in February, March, July, August, October, and December.

Additional citations: BRITISH GUIANA: De la Cruz 1700 (D—603537, N), 1750 (D—603566, N), 1849 (N), 2525 (N), 3435 (D—603773, N); H. A. Gleason 633 (N); Herb. Forest Dept. Br. Guian. F.905 [Rec. 3641] (N); A. S. Hitchcock 17075 (N); Jenman 5287 (C, Ka), 5805 (C), s.n. [Upper Demerara River, 1898] (N); Leng s.n. [Bartica, Oct. 4, 1922] (N); Maguire & Fanshawe 22974 (N), 23561 (N). BRAZIL: Alagoas: A. Lutz s.n. [Herb. Rio de Jan. 31186] (Ja). Amazonas: Schwacke III.286 [Herb. Rio de Jan. 47743] (Ja). Bahia: Martius 558 (M); Riedel s.n. [Bahia, 1859] (N); Salzmann s.n. (N). Minas Geraes: Mexia 5816 (Gg—286100). Pará: J. T. Baldwin 4021 (N); Spruce s.n. [Jul.—Aug. 1849] (N). Pernambuco: Pickel 734 (N). State undetermined: G. Gardner 1170 (N); Martius 555 [Villa St. Georgii Insulanorum] (N).

PAEPALANTHUS BOMBACINUS Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Williams & Assis 6926 (F—photo, N, N—photo, Sg—photo, W—1932848, Z—photo).

PAEPALANTHUS BONGARDII Kunth

Additional citations: BRAZIL: São Paulo: Moldenke & Moldenke 19645 (N), 19655 (N).

PAEPALANTHUS BRACHYPHYLLUS Ruhl.

Additional citations: BRAZIL: Amazonas: Murca Pires 826 (N).

PAEPALANTHUS BRACHYPUS (Bong.) Kunth

Additional citations: BRAZIL: Minas Geraes: Riedel 1182 (M—isotype).

PAEPALANTHUS BRITTONI Moldenke

A synonym of this species is P. montanus (Britton) Moldenke, published in Rev. Sudam. Bot. 4: 17 (1937), which proves to be a homonym of P. montanus Alv. Silv., Fl. Montium 76 (1928).

The species has been collected along the wooded banks of creeks, blooming in July.

Additional citations: CUBA: Oriente: G. C. Bucher 81 (Rg), 15269 (Es); R. A. Howard 5760 (N), 5960 (N); León & Clément 20149 (Ha).

PAEPALANTHUS BROMELIOIDES Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Mello Barreto & Brade 1040 [Herb. Jard. Bot. Bello Horiz. 10723] (N).

PAEPALANTHUS BRYOIDES (Bong.) Kunth

The Mello Barreto specimen cited below was originally distributed as Syngonanthus rupestris (Gardn.) Ruhl. and later re-determined as Blastocaulon rupestre (Gardn.) Ruhl.

Additional citations: BRAZIL: Minas Geraes: Mello Barreto 10129 (N); Riedel 1416 (T).

PAEPALANTHUS CACHAMBUENSIS Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Williams & Assis 7489 (F--photo, N, N--photo, Sg--photo, W--1933025, Z--photo).

PAEPALANTHUS CAESPITITIUS Mart.

Additional citations: BRAZIL: Minas Geraes: Riedel 293 [Herb. Martius 1082] (M).

PAEPALANTHUS CALDENSIS Malme

A synonym is P. duseii Ruhl. The species has been collected at an altitude of 1600 meters in São Paulo, blooming in March.

Additional citations: BRAZIL: Paraná: Stellfeld 1064 [Herb. Mus. Parana. 2044] (N). São Paulo: Eugenio Leite 3362 (N).

PAEPALANTHUS CAPANEMAE Alv. Silv.

The original description of this species was published by Löfgren in Archiv. Jard. Bot. Rio de Janeiro 2: 7--8 (1918). The type specimen is given as Herb. Rio de Jan. 6628 [Herb. Alv. Silveira 629], without any locality of collection being designated.

PAEPALANTHUS CAPAROËNSIS Ruhl.

This name is sometimes mis-spelled "P. capraoensis". The species has been collected in the campo above timberline at an altitude of 2425 meters.

Additional citations: BRAZIL: Espiritu Santo: Mexia 4022 (Gg--275578, N).

PAEPALANTHUS CAPILLACEUS Klotzsch

This species has been found at an altitude of 1500 meters in Bolívar, and Steyermark records for it the common name of "loit". Besides the collections cited below, the species is known also from British Guiana collections of R. Schomburgk and Sandwith.

Additional citations: VENEZUELA: Amazonas: Luetzelburg 21408 [Herb. Mus. Nac. Rio 47693] (Ja). Bolívar: Lasser 1798 (N, W--1901898); Steyermark 59453 (N), 60208 (N).

PAEPALANTHUS CAPILLACEUS var. PROLIFERUS Gleason

The variety has been found at altitudes of 1700 to 1800 meters on Mount Duida.

Additional citations: BRITISH GUIANA: Maguire & Fanshawe 23243 (N); G. H. H. Tate 263 (N). VENEZUELA: Amazonas: Steyermark 58138 (N); G. H. H. Tate 552 (N--type).

PAEPALANTHUS CARDONAE Moldenke

Additional citations: VENEZUELA: Bolívar: Cardona 2281 (F--photo of type, N--fragment of type, N--photo of type, W--1903498 --type, Z--photo of type).

PAEPALANTHUS CASTANEUS Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Ule 2730 [Herb. Rio de Jan. 47740] (Ja, N).

PAEPALANTHUS CATHARINAE Ruhl.

Additional citations: BRAZIL: Rio Grande do Sul: Rambo 32432 (N), 35245 (N), 36782 (N). Santa Catharina: Rambo 30510 (N); Reitz 2388 (N), 2461 (N), 2535 (N).

PAEPALANTHUS CHLORONEMA Alv. Silv.

Additional citations: BRAZIL: Mattogrosso: J. G. Kuhlmann 1632 [Herb. Rio de Jan. 47661] (Ja, N).

PAEPALANTHUS CHLOROPHYLLUS Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Silveira 563 [Herb. Marie-Victorin 15833] (Vi--isotype).

PAEPALANTHUS CLAUSSENIANUS Körn.

Additional citations: BRAZIL: Minas Geraes: B. da Costa 165 [Herb. Rio de Jan. 47721] (Ja).

PAEPALANTHUS COLOIDES Ruhl.

The Mexia collection cited below was originally distributed by Standley as Syngonanthus caulescens var. procerus. It was collected at 1260 meters altitude, and the common name "perpetua do campo" is recorded for it.

Additional citations: BRAZIL: Minas Geraes: Mexia 5733 (Gg--286182, N, N). State undetermined: G. Gardner 5246 (N).

PAEPALANTHUS COLUMBIENSIS Ruhl.

The Cardona 333 distributed under this name to some herbaria proves to be P. ensifolius (H.B.K.) Kunth. P. columbiensis has been collected at altitudes of 2500 to 3500 meters, in anthesis in March, June, August, and September, the flowers white. It grows on roadside banks, and common names recorded are "jeguey de páramo" and "pifuelita de páramo". The name has been incorrectly written "P. columbianus Ruhl." The Cuatrecasas 17841 collection has its peduncles extremely villous.

Additional citations: COLOMBIA: Boyacá: Cuatrecasas 10442 (W--1796504). Cauca: F. C. Lehmann 3578 (N--photo of isotype, W--936267--isotype, Z--photo of isotype). Cundinamarca: Cuatrecasas 9514 (N), 9528 (N), 9659 (W--1795907), 10473 (W--1796516); Cuatrecasas & Jaramillo 11969 (W--1850838); Garcia Barriga 11652 (W--1853681); Killip 34047 (Gg--313964, N); R. E. Schultes 3199 (N, Sm). Norte de Santander: Cuatrecasas & Garcia Barriga 10095 (W--1798728), 10206 (W--1799470); Cuatrecasas, Schultes, & Smith 12308 (W--1850948). Santander: Cuatrecasas & Garcia Barriga 9878 (W--1798456). Valle del Cauca: Cuatrecasas 17841 (N). Department undetermined: Mutis 1639 (W--1560090). VENEZUELA: Mérida: Sergent 15 (Ve). Trujillo: Jahn 1178 (Ve). State undetermined: Jahn

1307b [Páramo del Jabón] (Ve).

PAEPALANTHUS COMPACTUS Gardn.

Additional citations: BRAZIL: Minas Geraes: G. Gardner 5247 (M--isotype, N--isotype).

PAEPALANTHUS CONVEXUS Gleason

The species is known thus far only from Mount Duida and Mount Roraima. It was collected twice by Tate on Duida. It has been found at altitudes of 2255 to 2620 meters, flowering in September. The Phelps and Hitchcock collection, cited below, has its bracts more obtuse.

Additional citations: VENEZUELA: Amazonas: G. H. H. Tate 658 (N--type); Steyermark 58041 (F--1209395, N), 58351 (F--1209391, N). Bolívar: Phelps & Hitchcock 380a (N); Steyermark 58778 (N), 58876 (F--1209393, N).

PAEPALANTHUS CORYMBOIDES var. EPILOSUS Ruhl.

Additional citations: BRAZIL: Paraná: Hertel 46 [Herb. Mus. Parana. 2097] (N).

PAEPALANTHUS COUTOENSIS Moldenke

This binomial is based on the P. barbulator of Alv. Silv., Fl. Montium 211, pl. 139 & 140 (1928), not P. barbulator Herzog in Fedde, Repert. 20: 83 (1924).

Additional citations: BRAZIL: Federal District: Brade 10984 [Herb. Rio de Jan. 26706] (Ja, N).

PAEPALANTHUS CRASSICAULIS Körn.

Ruhland on page 208 of his monograph cites this species from "Colombia: bei Chachapoyas, unfern der Stadt San Carlos (Fielding n. 1403)". Mr. E. P. Killip, in a letter to me dated November 20, 1945, says that this locality is undoubtedly in the department of Amazonas, Peru. The index to the American Geographic Society's map of the Americas (page 863) gives a San Carlos in that department. The Fielding referred to is evidently H. B. Fielding, who assembled a herbarium of 70,000 specimens although he never collected in Peru himself. An account of this herbarium is published in Journ. Bot. Hook., page 6, and on page 283 reference is made to 2000 specimens of Mathews' collection. Mathews lived for a long while at Chachapoyas, and I have seen many of his specimens bearing that name as the locality of collection, but without his own name as collector (although written in what we know to be his own handwriting)! It is probable that the specimen cited by Ruhland has a label reading about as follows: "Chachapoyas: Herb. Fielding". The species is not included in Macbride's Flora of Peru and it is therefore of importance definitely to place it. Possibly other species referred to Colombia by various monographers do not really belong there.

The species has been collected at altitudes of from 2150 to 3430 meters, mostly in paramos or on bushy slopes, blooming in

May, June, August, and October. The common name "olivar" is recorded for it by Steyermark.

Additional citations: COLOMBIA: Boyacá: Cuatrecasas & Garcia Barriga 9747 (W--1798455). Cundinamarca: André 1001, in part [SE de Bogotá] (N), 1001, in part [Paramo de Chipaqué] (N); Cuatrecasas 5627 (N), 9424 (N); Ewan 16906 (N); Haught 5028 (N, W--1709677), 5599 (N), 5732 (N); Killip, Garcia Barriga, & Gutierrez Villegas 38039 (N); Pérez Arbeláez & Cuatrecasas 5627 (W--1774211); Rusby & Pennell 1280 (N). Norte de Santander: Linden 764 (Br). Department undetermined: Mutis 1638 (N--photo, W--1560089, Z--photo). VENEZUELA: Mérida: Steyermark 56265 (F--1205135, N), 56292 (F--1221908). PERU: Cajamarca: R. Ferreyra 826 (N).

PAEPALANTHUS CURURENSIS Moldenke

Citations: BRAZIL: Pará: Sioli s.n. [Herb. Inst. Agron. Norte 29159] (N--type).

PAEPALANTHUS CUSPIDATUS Alv. Silv.

The species has been collected in sand under boulders at an altitude of 1300 to 1500 meters.

Additional citations: BRAZIL: Minas Geraes: M. A. Chase 10432 (F--photo, N, N--photo, Si--photo, W--1495698, Z--photo).

PAEPALANTHUS DENSIFOLIUS Alv. Silv.

This species, originally published in Archiv. Jard. Bot. Rio de Janeiro 2: 7--8 (1918), is based on the following specimen: "ex Herb. do Jardim Bot. do Rio de Janeiro, loco non indicato lecta sub n. 6645; n. 630 in herb. Silveira."

PAEPALANTHUS DICHOTOMUS Klotzsch

The species has been collected at an altitude of 1065 meters, blooming in October.

Additional citations: VENEZUELA: Amazonas: Ule 8556 (N). Bolívar: Steyermark 59209 (N). BRITISH GUIANA: R. H. Schomburgk 676/899a (N, K), 899 (K). BRAZIL: Amazonas: Ule 8556, in part (W--1615063).

PAEPALANTHUS DISTICHOPHYLLUS Mart.

Additional citations: BRAZIL: Minas Geraes: Mello Barreto 9892 [Herb. Jard. Bot. Bello Horiz. 25479] (N).

PAEPALANTHUS DIVARICATUS (Bong.) Kunth

Additional citations: BRAZIL: Minas Geraes: L. Riedel 1048 (M--isotype).

PAEPALANTHUS DOMINGENSIS Ruhl.

The species has been collected at an altitude of 6200 feet, blooming in September.

Additional citations: HISPANIOLA: Dominican Republic: Howard

& Howard 9118 (N).

PAEPALANTHUS DUIDAE Gleason

The species is described by Steyermark as being terrestrial, growing at altitudes of 1820 to 2075 meters, in moist places on Mount Duida, with white flowering heads.

Additional citations: VENEZUELA: Amazonas: Steyermark 58319 (F--1205139, N), 58361 (F--1209394, N); G. H. H. Tate 456 (N--type).

PAEPALANTHUS ELATUS (Bong.) Körn.

Additional citations: BRAZIL: Minas Geraes: L. Riedel 1037 (T--isotype).

PAEPALANTHUS ELONGATUS (Bong.) Körn.

The species is described as inhabiting wet places in São Paulo. The Guillemain specimen cited below was distributed as "Eriacolon elongatum Bong."

Additional citations: BRAZIL: Minas Geraes: B. Lutz 55 [Herb. Rio de Jan. 47738] (Ja). São Paulo: Guillemain s.n. [locis humidis a St. Paul. 1859] (Du).

PAEPALANTHUS ELONGATUS var. GRAMINIFOLIUS Herzog

This variety, according to Luetzelburg, Estudo Botanico do Nordeste 3: 148 (1923), has been found at Alto Rio de Contas and Minas do Rio de Contas in central Bahia and at Rio das Femeas in eastern Goyaz. It is said to be typical of the "carrasco" and frequent in the "brejo". The name appears in Luetzelburg's work as "f. graminifolia".

PAEPALANTHUS ELONGATUS var. HELICHRYSOIDES (Kunth) Ruhl.

The Martius collection cited below bears the following names as synonyms on its label: Eriocaulon stellare Guill., P. elongatus Körn., P. elongatus var. barbulata Körn., and P. elongatus var. ciliata Körn. The first of these names is synonymous with Paepalanthus stellaris (Guill.) Kunth, while P. elongatus var. barbulata is probably conspecific with typical P. elongatus and var. "ciliata" [=ciliatus] is probably distinct or may be the same as var. helichrysoides.

Additional citations: BRAZIL: Minas Geraes: Ule 2731 [Herb. Rio de Jan. 47741] (Ja). State undetermined: Herb. Martius 877 (M).

PAEPALANTHUS ELONGATUS var. PUBESCENS Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Mello Barreto 4721 [Herb. Jard. Bot. Bello Horiz. 17747] (N).

PAEPALANTHUS ENSIFOLIUS (H.B.K.) Kunth

Literature: R. Espinosa, Estud. Bot. Sur Ecuad. 1: 44, 72, 73, & 77. 1948; 2: 25. 1949.

Penland describes the species as growing from a long rhizome

in leafmold and moss, with dark-green leaves and white heads. Espinosa says "Forma rosetas sobre los prados de la parte inferior del páramo; cabezuela sobre largo pedúnculo; rosetas en socias, entre el herbetum de altura, o entre el fructicetum de las faldas." It has been collected at altitudes of from 2400 to 3300 meters, flowering in March, July, and August.

Additional citations: COLOMBIA: Magdalena: André 332, in part [Isla Brava] (N). Norte de Santander: Pérez Arbeláez s.n. [Maquén, Marzo 1930] (Gg--225663). VENEZUELA: Táchira: Cardona 333 (Ve, W--1459971). ECUADOR: Azuay: Camp E.402 (N); Wiggins 10822 (N, Ug). Carchi: André 332, in part [Huacabamba] (N). Loja: André 332, in part [Chuquiribamba] (N); R. Espinosa 192 (N), 880 (N); Penland & Summers 1144 (N); Steyermark 53744 (F--1205651). Province undetermined: Collector undesignated 35 (Q); Jameson s.n. [Southern provinces] (N).

PAEPALANTHUS ERIGERON Mart.

Additional citations: BRAZIL: Bahia: Blanchet 2601 (M--isotype); Schery 672 (N).

PAEPALANTHUS ESPINOSIANUS Moldenke

Literature: R. Espinosa, Bol. Inform. Cent. Nac. Quito 2 (11-12): 46--47. 1948; R. Espinosa, Estud. Bot. Sur Ecuad. 2: 25 (as "Espinasianus"). 1949.

Although in both the references cited above the name appears with "sp. nov." after it, the binomial was actually validly published by me in Phytologia 2: 228--229. 1947.

Citations: ECUADOR: Santiago-Zamora: Steyermark 54342 (N--type).

PAEPALANTHUS EXIGUUS (Bong.) Körn.

Additional citations: BRAZIL: Minas Geraes: Ule 2713 [Herb. Rio de Janeiro 47752] (Ja, N).

PAEPALANTHUS FALCIFOLIUS Körn.

The Gardner specimen cited below was previously mis-identified as P. polyanthus (Bong.) Kunth, while Ruhland cites Clausen 267 as P. conduplicatus Körn. The latter, however, may well be a case of several different things distributed under one number.

Additional citations: BRAZIL: Minas Geraes: P. Clausen 267, in part (N), 319 (N, N). State undetermined: G. Gardner 5248 (N); Herb. Jard. Bot. Brux. s.n. (Br); Linden 6 (Br), s.n. (Br).

PAEPALANTHUS FASCICULATUS (Rottb.) Körn.

The Herb. Limingani specimen cited below was previously mis-identified as Eriocaulon caulescens Poir. and E. lamarckii Steud. The species has been collected at altitudes of 150 to 220 meters, in anthesis from December to March and in June and September.

Additional citations: COLOMBIA: Amazonas: R. E. Schultes 3943

(N). Méta: F. W. Pennell 1543 (N, W--1041807). Vaupés: Cuatrecasas 6757 (N), 6976 (N, N), 6999 (W--1774223); Perez Arbeláez & Cuatrecasas 6757 (N); R. E. Schultes 5837a (N). VENEZUELA: Amazonas: Luetzelburg 22455 [Herb. Rio de Janeiro 47675] (Ja); Holt & Blake 463 (N); Schultes & López 9287 (N); Steyermark 57729 (N); Ll. Williams 13960 [Herb. Nac. Venez. 18502] (Ve), 14939 (W--1878500). Bolívar: Ll. Williams 14939 [Herb. Nac. Venez. 18501] (Ve). BRITISH GUIANA: H. A. Gleason 25 (W--1190816); Maguire & Fanshaw 23001 (N), 23560 (N). SURINAM: Maguire & Stahel 23618 (N); Moldenke & Moldenke 19583 (Es, Lg, N, Sm). FRENCH GUIANA: Herb. Limingani s.n. (Du). BRAZIL: Amazonas: J. T. Baldwin 3222 (N), 3389 (N), 3467 (N), 3548 (N); Holt & Blake 575 (N); Luetzelburg 22471, in part [Herb. Rio de Jan. 47673] (Ja), 22501, in part [Herb. Rio de Jan. 47660] (Ja), 22604, in part [Herb. Rio de Jan. 47659] (Ja); R. E. Schultes 8720 (N), 9860 (N, Ug); Schultes & López 8780 (N), 9250 (N, Ug); Schultes & Murça Pires 9136 (N); Spruce s.n. [in vicinibus Barra, Dec.-Mart. 1850-51] (N). Pará: Spruce s.n. [in vicinibus Obidos, Dec. 1849] (N).

PAEPALANTHUS FASCICULATUS var. ICANENSIS Herzog

Additional citations: BRAZIL: Amazonas: Luetzelburg 22303 [Herb. Rio de Jan. 47695] (Ja--cotype, N--cotype), 22448 [Herb. Rio de Jan. 47694] (Ja--cotype, N--cotype), 22975 [Herb. Rio de Jan. 47683] (Ja).

PAEPALANTHUS FASCICULATUS f. RIGIDUS Herzog

Additional citations: BRAZIL: Amazonas: Luetzelburg 22244 [Herb. Rio de Jan. 47697] (Ja--isotype, N--isotype).

PAEPALANTHUS FASCICULATUS f. SPHAEROCEPHALUS Herzog

Additional citations: BRAZIL: Amazonas: Luetzelburg 22931 [Herb. Rio de Jan. 47698] (Ja--isotype, N--isotype).

PAEPALANTHUS FASCICULATUS f. TENELLUS Herzog

Additional citations: VENEZUELA: Amazonas: Luetzelburg 22978 [Herb. Rio de Jan. 47699] (Ja--isotype, N--isotype). SURINAM: Maguire 24677 (N). BRAZIL: Amazonas: Luetzelburg 21993 [Herb. Rio de Jan. 47680] (Ja).

PAEPALANTHUS FASCICULIFER Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Silveira 590 [Herb. Marie-Victorin 15844] (Vi).

PAEPALANTHUS FERREYRAE Moldenke

Citations: PERU: Cajamarca: R. Ferreyra 809 (N--type).

PAEPALANTHUS FLACCIDUS (Bong.) Kunth

The species is said by Mrs. Chase to grow in wet sand in crevices of rock along tiny streamlets, probably dry at some

seasons, at an altitude of 1200 meters.

Additional citations: BRAZIL: Minas Geraes: M. A. Chase 10331 (W--1495685); Mello Barreto 9844 [Herb. Jard. Bot. Bello Horiz. 25340] (N); Ule 2718 [Herb. Rio de Jan. 47744] (Ja). São Paulo: W. Hoehne 1613 (N, Wh, Wh, Wh, Wh, Wh, Wh, Wh). State undetermined: G. Gardner 5244 (N); Martius 883 (T); L. Riedel 2291 (M).

PAEPALANTHUS FRATERNUS N. E. Br.

Additional citations: VENEZUELA: Bolívar: Steyermark 58849 (F--1209392, N), 58901 (N).

PAEPALANTHUS FREYREISSII (Thunb.) Körn.

A synonym is Eupaepalanthus freyreissii Körn. ex V. A. Pouls., Vidensk. Meddel. Kjøbenhavn 1888: 321. 1888.

Additional citations: BRAZIL: Minas Geraes: Lauro s.n. [Herb. Rio de Jan. 47670] (Ja, N).

PAEPALANTHUS FUSCUS Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Sampaio 6880 [Herb. Rio de Jan. 47647] (Ja, N).

PAEPALANTHUS GARDNERIANUS Walp.

A synonym is Cladocaulon brasiliense Gardn.

Additional citations: BRAZIL: Minas Geraes: G. Gardner 5250 (N--isotype).

PAEPALANTHUS GENICULATUS (Bong.) Kunth

Additional citations: BRAZIL: Minas Geraes: Sampaio 68 [Herb. Rio de Jan. 47649] (Ja), 6878 [Herb. Rio de Jan. 47651] (Ja, N).

PAEPALANTHUS GENTLEI Moldenke

Originally published in N. Am. Fl. 19: 40--41. 1937.

This very distinct species seems often to grow in company with P. lamarckii, for both species are intimately mixed on many sheets of the type collection. The P. lamarckii material, however, is by me regarded as Gentle 992a and the P. gentlei material as the true no. 992.

Additional citations: BRITISH HONDURAS: H. H. Bartlett 11874 (Mi); Gentle 992 (Ba--isotype, F--isotype, Gg--276712--isotype, I--isotype, Mb--isotype, Ml--isotype, N--isotype, N--isotype, N--isotype, N--type); O'Neill 8547 (I, Mi).

PAEPALANTHUS GLAZIOVII Ruhl.

Additional citations: BRAZIL: Minas Geraes: Glaziou 20016 (N--isotype).

PAEPALANTHUS GLEASONII Moldenke

This binomial is based on P. robustus Gleason, Bull. Torrey Bot. Club 58: 330 (1931), not P. robustus Alv. Silv., Flora e Serras Mineiras 53. 1908.

Additional citations: VENEZUELA: Bolívar: G. H. H. Tate 622 (N--type).

PAEPALANTHUS GYROTRICHUS Ruhl.

Additional citations: BRAZIL: Minas Geraes: Williams & Assis 6864 (N, W--1932829).

PAEPALANTHUS HERZOGII Moldenke

This species, according to Luetzelburg, Estudo Botânico do Nordeste 3: 149--150 (1923), is known from Serra Marsalina in central Bahia where it is said to be typical of the "carrasco".

PAEPALANTHUS HILAIRESI Körn.

According to Luetzelburg, Estudo Botânico do Nordeste 3: 149 (1923), this species forms 20 percent of all the vegetation at Casa de Pedra, in central Bahia, and is known also from Campinas de Duro in eastern Goyaz. It is said to be typical of the "carrasco" and frequent in the "campinas".

The Martius collection cited below was distributed as Eriocaulon maximiliani Schrad. and the Mexia collection as P. polyanthus by Standley. The species is described by Mexia as a perennial herb 80 cm. tall or taller, with white flowers, abundant on streambanks.

Additional citations: BRAZIL: Bahia: Fróes 20114 (N). Minas Geraes: P. Clausen 14 (N, N); B. Lutz 44 [Herb. Rio de Jan. 47747] (Ja); Mello Barreto 4714 [Herb. Jard. Bot. Bello Horiz. 17542] (N); Mexia 5764 (Gg--286186, N); Williams & Assis 7381 (W--1932981). State undetermined: P. Clausen 267 (N, N), s.n. (N, N, N, N); Martius 897 (M).

PAEPALANTHUS HILAIRESI var. MAXIMILIANI Ruhl.

This variety has been collected in anthesis in December and has been distributed as Eriocaulon maximiliani.

Additional citations: BRAZIL: State undetermined: Guillemin 223 [Lake Marica] (N).

PAEPALANTHUS HILAIRESI var. PIAUHYENSIS Ruhl.

Synonym: Paepalanthus hilairesi var. piauhyensis Ruhl. ex Moldenke, Known Geogr. Distrib. Eriocaul. 49, sphalm. 1946.

Additional citations: BRAZIL: Piahy: G. Gardner 2968 (M--isotype, N--isotype).

PAEPALANTHUS HISPIDISSIMUS Herzog

According to Luetzelburg, Estudo Botânico do Nordeste 3: 148 & 150 (1923), this species is found at Bom Jesus do Rio de Contas in central Bahia, and at Alto Rio Gurgueia, Brejo do Dorreio, and Parnaguá, in southern Piahy. It is said to be frequent in the "carrasco" and typical of the "brejo".

PAEPALANTHUS HOMOMALLUS (Bong.) Mart.

Additional citations: BRAZIL: Minas Geraes: L. Riedel s.n. (T).

PAEPALANTHUS INCANUS (Bong.) Körn.

Additional citations: BRAZIL: Minas Geraes: Mexia 5748 (Gg--286185).

PAEPALANTHUS KARSTENII Ruhl.

Literature: R. Espinosa, *Estud. Bot. Sur Ecuad.* 1: 78. 1948; 2: 25. 1949.

Specimens of this species have been distributed as Eriocaulon microcephalum H.B.K. and under the name Dupatya karstenii (Ruhl.) Gleason. It has been collected on wet open paramos and open grassy paramos and limestone outcrops, at altitudes of from 2900 to 4300 meters, blooming in February, April to July, and September. It is said by Pennell and others to be a perennial herb forming dense mats, with white flowers; Killip and Smith say the heads are dark-gray. Sergent records the common name "Estrellita de páramo", while Espinosa describes the plant as "plantita que forma céspedes; pequeñas rosetas."

Additional citations: COLOMBIA: Boyacá: Cuatrecasas 1209 (W--1772914), 1501 (W--1773011), 1612 (W--1773067); Herb. Escuela Normal Superior s.n. [Nevado El Bocuy] (N). Cauca: H. Pittier 1105 (W--531303), s.n. [February, 1906] (W--531755, W--1114760). Cundinamarca: Appolinaire & Arthur 26 (N); Cuatrecasas 5553 (N, N), 9502 (N), 10455 (N); Haught 5619 (N); Killip & Ariste-Joseph 11957 (N); F. W. Pennell 2256 (N), 2685a (N). Putumayo: Cuatrecasas 11742 (W--1798479). Santander: Killip & Smith 19557 (N, W--1354766). Department undetermined: Mutis 2551 (W--1562693). VENEZUELA: Mérida: Sergent 51 (Ve, W--1778033). Táchira: Cardona 311 (Ve); Steyermark 57377 (N). ECUADOR: Loja: R. Espinosa 1026 (N). Province undetermined: André K.1738 [Tambo de Savanilla] (N). PERU: Cuzco: F. W. Pennell 13864 (D--642894).

PAEPALANTHUS KILLIPII Moldenke

The collectors describe this plant as having ashy-gray heads, growing in marshy land at an altitude of 1500 meters, Mesa de los Santos, blooming in December. They claim that it is related to P. lamarckii.

Additional citations: COLOMBIA: Santander: Killip & Smith 15299 (Gg--313974--isotype, N--isotype, N--photo of type, W--1351199--type, Z--photo of type).

PAEPALANTHUS KUPPERI Suesseng.

This species was originally published in *Engl., Bot. Jahrb.* 72: 293. It exists in microfilm at the Gray Herbarium and is too lengthy to copy easily. The type is said to have been collected on Chirripo Grande, Costa Rica. The west side of this mountain is in the province of Limón, while the east side is in San José. It is not known on which side the material was collected.

PAEPALANTHUS LAMARCKII Kunth

Corrected synonymy: Eriocaulon lamarckii (Kunth) Steud., *Syn.*

Pl. Cyp. 2: 276. 1855; Lasiolepis pilosa Bück., Flora 56: 90. 1873; Lasiolepis pilosa Bück. apud Milne-Redhead, Kew Bull. 1948: 472, sphalm. 1948.

Illustrations: Lam., Encycl. Méth. 3: pl. 50, fig. 3. 1789.

This small and easily overlooked herb is said to be common locally on wet sandy soil of open savannas, in marshy places in lower portions of valleys, in marshes along rivers, in woods and savannas near sealevel, and among grasses near footpaths in its American area of distribution. In British Honduras it grows in company with P. gentlei and Syngonanthus bartlettii, and is intimately mixed with these and with several xyridaceous, cyperaceous, and juncaceous species on herbarium sheets. It is said to be "very rare" in British Honduras, but occurs rather abundantly in Venezuela and the Guianas. It grows at altitudes from near sealevel to 500 meters. Specimens have been distributed as "P. lamarckianus H.B.K." and Eriocaulon caesium Griseb.

Literature: Kunth, Enum. Pl. 3: 506. 1841; Lecomte, Journ. de Bot., sér. 2, 1: 136. 1908; Lecomte, Bull. Soc. Bot. France 55: 595. 1909; Malme, Phanerogamen 3: 3. 1933; Moldenke, Carnegie Inst. Wash. Publ. 522: 143—144. 1940; Milne-Redhead, Kew Bull. 1948: 472—473. 1948.

In Africa this species has been collected in moist sandy places near a roadside ditch, on poor sandy soil bare of other vegetation in rest-house compounds, on moist sand near the sea, in association with Utricularia, Polygala, and rushes where wet-season lagoons are drying up, in sandy places in general. It has there been collected in flower in March, August, October, November, and December. In the New World it has been collected in flower in February, March, August, October, November, and December.

The specimen cited by Alvaro Silveira from "Marajo" is from Marajo Island, Pará, Brazil. The species has also been collected in Monagas, Venezuela (Las Botellas, Maturin).

Lecomte has described the remarkable structure of the calyx of the female flowers of this species and the resulting method of seed dispersal. Milne-Redhead notes that the detached calyxes, after the dispersal of the fruits, are quite conspicuous clinging to the heads of all the specimens he examined. He cites, in addition, Chevalier 20307 from French Guinea; Deighton 1441 and Adames 90 from Sierra Leone; Bequaert s.n. [Linder 1451] from Liberia; Lecomte F.30 from Gabun; and Fitzgerald 5213/2 from Mafia Island, Tanganyika. In a letter to me he states that P. J. Greenway also collected it on Mafia. He says "Whilst it is possible that the species has been introduced into Tropical Africa, it is, on the other hand, quite reasonable to suppose that it is a native. It is hoped that, when collectors pay more attention to the members of this interesting if insignificant family, the distribution of P. lamarckii may be shown to be a natural one."

The amazingly disjointed distribution of this species is very probably due to poor collecting. It brings to mind the known distribution of several other species which are inconspicuous and

therefore mostly overlooked by botanical collectors. Eriocaulon melanocephalum Kunth, for instance, is known from Cuba and then not again until Colombia, Venezuela, French Guiana, and Brazil. Tonina fluviatilis Aubl., another strictly aquatic plant, is known from Cuba, Nicaragua, Costa Rica, Trinidad, Colombia, Venezuela, British Guiana, Surinam, French Guiana, Brazil, and Peru. Ghinia spicata (Aubl.) Moldenke, a terrestrial weedy verbenaceous plant, is known from British Honduras and then not again until Venezuela, British Guiana, French Guiana, and Brazil.

Additional citations: BRITISH HONDURAS: H. H. Bartlett 11263 (Mi, Mi, N, N); Gentle 992a (Mi, N), 3780 (N, N); Schipp S.130 (F, N). PANAMA: Coclé: Hunter & Allen 365 (E--1120006); H. Pittier 4932 (W--715108). CUBA: Pinar del Río: Acuña 14903 (Es); Ekman 18121 [Herb. Roig 2771] (Es, Ha), 18135, in part (Es), s.n. [Herb. Est. Cent. Agron. 8345] (Es); León 17431 (N); Moldenke & Moldenke 19877 (Es, N); Moldenke, Moldenke, León, Alain, & Acuña 15270 (Es). Province undetermined: C. Wright 3742 (Pa). TRINIDAD: W. E. Broadway 2145 [Herb. Marie-Victorin 25156; Trin. Bot. Gard. Herb. 9701] (N, R, Vi), 4980 (N), s.n. [Trin. Bot. Gard. Herb. 4980] (R); Dannouse s.n. (R); Wright s.n. [8/1/34] (R). COLOMBIA: Arauca: Cuatrecasas 3896 (W--1773361). Magdalena: Haught 2241 (N). FRENCH GUIANA: Collector undesignated s.n. [Cayenne, 1844] (Du), s.n. [Cayenne, 1845] (Du). BRAZIL: Amazonas: Luetzelburg 20547 [Herb. Rio de Jan. 47701] (Ja), 20866 [Herb. Rio de Jan. 47690] (Ja). SIERRA LEONE: Adames s.n. [Deighton 4128] (N); Deighton 1440 (N).

PAEPALANTHUS LANCEOLATUS Körn.

Additional citations: BRAZIL: Minas Geraes: B. da Costa 138 [Herb. Rio de Jan. 47669] (Ja, N).

PAEPALANTHUS LEUCOBLEPHARUS Körn.

According to Luetzelburg, Estudo Botânico do Nordeste 3: 149 (1923), this species is known from 1700 meters elevations on the Serra de Itubira, in Bahia, Brazil.

PAEPALANTHUS LEUCOCYANEUS Tutin

Additional citations: BRITISH GUIANA: Maguire & Fanshawe 23264 (N). SURINAM: B. Maguire 24750 (N).

PAEPALANTHUS LILLIPUTIANUS Moldenke

Additional citations: BRITISH GUIANA: R. Giglioli s.n. [1931] (Fo--type, N--isotype).

PAEPALANTHUS LINDENII Ruhl.

Killip and Smith describe this as a caespitose herb growing in clumps at 2900 meters altitude, with grayish-white heads, blooming in March.

Additional citations: COLOMBIA: Boyacá: Linden 1318 (Br--iso-

type, N--fragment of isotype, N--photo of isotype, Z--photo of isotype). Norte de Santander: Killip & Smith 20621 (N).

PAEPALANTHUS LINGULATUS (Bong.) Kunth

The original publication, according to a letter to me from the Columbia University library, is Eriocaulon lingulatus Bong., Mém. Acad. Petersb., sér. 6, 1: 626. 1831. The species is listed there as No. 24, rather than No. 26, as sometimes stated. In herbaria the name is often mis-spelled "Eriocaulon ligulatus Bong."

PAEPALANTHUS LODICULOIDES Moldenke

This species is known thus far only from the high valley of Las Lagunillas, Nevado del Cocuy, altitude 4000 to 4300 meters, Boyacá, Colombia, blooming in September.

Additional citations: COLOMBIA: Boyacá: Cuatrecasas 1537 (N--fragment of type, N--photo of type, W--1773030--type, Z--photo of type).

PAEPALANTHUS LOXENSIS Moldenke

Literature: R. Espinosa, Bol. Inform. Cient. Nat. Quito 2 (11-12): 47--48. 1948; Estud. Bot. Sur Ecuad. 2: 25. 1949.

Citations: ECUADOR: Loja: Steyermark 54452 (N--type).

PAEPALANTHUS LÜTZELBURGII Herzog

According to Luetzelburg, Estudio Botanico do Nordeste 3: 138 & 150 (1923), this species has been found on the Serra dos Trez Irmaos, in central Bahia, where it is said to be typical of the "carrasco" and frequent in the "brejo". This author writes the binomial "P. luetzelburgii Herzog".

PAEPALANTHUS MACAHEENSIS Körn.

Additional citations: BRAZIL: Rio de Janeiro: Brade 9938 [Herb. Rio de Jan. 22406] (Ja), 11484 [Herb. Rio de Jan. 26713] (Ja), 11485 [Herb. Rio de Jan. 26714] (Ja); Moldenke & Moldenke 19613 (Mg, N, No, Ot, Pn, Sm).

PAEPALANTHUS MACROCEPHALUS (Bong.) Körn.

Additional citations: BRAZIL: State undetermined: G. Gardner 5280 (N).

PAEPALANTHUS MAGUIREI Moldenke

The species has been collected on rocks by waterfalls at an altitude of 1400 meters, by Hitchcock, blooming in March.

Additional citations: VENEZUELA: Amazonas: C. B. Hitchcock 25 (N).

PAEPALANTHUS MANICATUS V. A. Pouls.

Additional citations: BRAZIL: Minas Geraes: Ule 2724 [Herb. Rio de Jan. 47742] (Ja, N).

PAEPALANTHUS MERIDENSIS Klotzsch

The species has been collected at an altitude of 2500 meters, blooming in July.

Additional citations: VENEZUELA: Táchira: Steyermark 57201 (N).

PAEPALANTHUS MICROPHYLLUS (Guill.) Kunth

Additional citations: BRAZIL: Minas Geraes: Mello Barreto & Brade 1043 [Herb. Jard. Bot. Bello Horiz. 10729] (N).

PAEPALANTHUS MINUTULUS Mart.

A synonym is Eupaepalanthus minutulus Mart. ex V. A. Poul., Vidensk. Meddel. Kjøbenhavn 1888: 341. 1888.

Additional citations: BRAZIL: Minas Geraes: Mexia 5780 (Gg--286188).

PAEPALANTHUS MIRABILIS Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Silveira 368 [Herb. Marie-Victorin 15832] (Vi--isotype).

PAEPALANTHUS MUSCOSUS Körn.

This species has been collected at altitudes of 3000 to 3800 meters, blooming in March. The Jahn collection cited below was compared by E. P. Killip with the type of the species in Berlin and found to be conspecific with it.

Additional citations: COLOMBIA: El Cauca: Cuatrecasas 19099 (N), 19119 (A). Norte de Santander: Linden 1330 (Br, N--photo, Z--photo). Santander: Linden 1326, in part [La Baja] (Br). Valle del Cauca: Cuatrecasas 20278 (W--1900706). VENEZUELA: Mérida: Jahn 1034 (N--fragment, N--photo, Ve, Z--photo). BOLIVIA: La Paz: R. S. Williams 842 (N, N). Province undetermined: Tate 382 [Cocopuncó, Cordillera Real] (N). LOCALITY OF COLLECTION UNDESIGNATED: Collector undesignated s.n. (Br).

PAEPALANTHUS MYOCEPHALUS (Mart.) Körn.

Synonyms: Paepalanthus myocephalus var. major Körn. in Mart., Fl. Bras. 3 (1); P. myriocephalus Mart., in herb.; P. myocephalus Mart., in herb.

Literature: F. C. Hoehne, Relat. Anual Inst. Bot. S. Paulo 1945: 39. 1945.

According to Luetzelburg, Estudo Botanico do Nordeste 3: 148 & 150 (1923), this species is known from São Bento, in eastern Bahia, where it is said to be typical of the "brejo". It has been collected on rocks and in wet places between rocks, flowering and fruiting in March, July, and September.

Additional citations: BRAZIL: Bahia: Glocker 333 (W--1420860); Luschnath 34 [Herb. Martius 559] (C--cotype). Pernambuco: G. Gardner s.n. [III.1837] (M); Pickel 135 (N), s.n. [Tapera, Sept. 1929] (N). State undetermined: Herb. A. Gray s.n. (T).

PAEPALANTHUS NEOCALDENENSIS Moldenke

This binomial is based on the P. caldensis Alv. Silv., Fl. Montium 186, pl. 120. 1928, not P. caldensis Malme, Bihang till K. Sv. Vet. Akad. Handl. 27, Afd. 3, no. 11: 29, pl. 2, fig. 3. 1901.

PAEPALANTHUS NEOPULVINATUS Moldenke

This binomial is based on P. pulvinatus Alv. Silv., Fl. Montium 37: pl. 18. 1928, not P. pulvinatus N. E. Br. in Thiselton-Dyer, Fl. Trop. Afr. 8: 263. 1902.

PAEPALANTHUS NIGRESCENS Alv. Silv.

The original publication of this binomial is in Alv. Silv., Fl. Serras Mineiras 62 (1908), but in the same author's Fl. Montium he later mis-spells the name "P. negregens".

PAEPALANTHUS OERSTEDIANUS Körn.

A synonym is Eupaepalanthus oerstedianus Körn. ex V. A. Pouls., Vidensk. Meddel. Kjøbenhavn 1888: 327. 1888.

Additional citations: BRAZIL: São Paulo: Moldenke & Moldenke 19635 (Es, Lg, Mg, N, Ot, Sm). State undetermined: L. Riedel 1777 [Serra da Cutatao] (M—cotype).

PAEPALANTHUS OVATUS Körn.

According to Luetzelburg, Estudo Botanico do Nordeste 3: 148 & 150 (1923), this species grows at 2300 meters elevation in the Serra dos Orgaos at Acú, as well as at Casa de Pedra and Serra de Sincorá in central Bahia. It is said to be typical of the "carrasco" and frequent in the Organ Mountains.

Additional citations: BRAZIL: State undetermined: G. Gardner 5901 (N—iotype).

PAEPALANTHUS OYAPOCKENSIS Herzog

Additional citations: BRAZIL: Pará: Luetzelburg 20225 [Herb. Rio de Jan. 47717] (Ja, N), 20331 [Herb. Rio de Jan. 47713] (Ja, N), 21249 [Herb. Rio de Jan. 47716] (Ja, N).

PAEPALANTHUS PALLIDUS Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Costa Serra s.n. [Herb. Silveira 458; Herb. Marie-Victorin 15840] (Vi—iotype); Ule s.n. [Herb. Rio de Jan. 47755] (Ja, N).

PAEPALANTHUS PARAMENSIS Moldenke

The type of this cespitose herb was collected on the Páramo del Hatico, en route from Toledo to Pamplona, at an altitude of about 2900 meters, Norte de Santander, blooming in March. Killip claims that the species is related to P. meridensis Klotzsch, but he compared it with the type of that species in Berlin and finds that they are not conspecific.

Additional citations: COLOMBIA: Boyacá—Santander boundary: Cuatrecasas 10417 (W—1850835). Magdalena: Carriker 11 (W—1833470). Norte de Santander: Killip & Smith 20622 (N—iotype),

N--photo of type, W--1355646--type, Z--photo of type).

PAEPALANTHUS PAUPER Moldenke

This species has been collected at an altitude of 200 meters, blooming in August.

Additional citations: VENEZUELA: Amazonas: Steyermark 57806 (N).

PAEPALANTHUS PAUPERRIMUS Herzog

Additional citations: BRAZIL: Amazonas: Luetzelburg 20757 [Herb. Rio de Jan. 47692] (Ja--isotype, N--isotype).

PAEPALANTHUS PEDUNCULATUS (Bong.) Ruhl.

The Gardner 5284 collection cited below is the type collection of P. falcatus Körn., which is a synonym of this species.

Additional citations: BRAZIL: Minas Geraes: B. da Costa 159 [Herb. Rio de Jan. 47720] (Ja); G. Gardner 5284 [Macbride photos 25167] (Kr--photo, N--photo). State undetermined: G. Gardner 5254 (N).

PAEPALANTHUS PERPLEXANS Moldenke

Citations: VENEZUELA: Bolívar: Steyermark 59748 (N--type).

PAEPALANTHUS PERPUSILLUS Kunth

Additional citations: BRAZIL: Amazonas: Spruce s.n. [in vicinibus Barra, Dec.-Mart. 1850-51] (N).

PAEPALANTHUS PETRAEUS Körn.

Killip describes the species as caespitose, with smooth leaves. It has been collected at altitudes of 2620 to 3500 meters, blooming in March, May, and June.

Additional citations: COLOMBIA: Antioquia: Daniel 1701 (W--1743949). Boyacá: Cuatrecasas 10352 (W--1850827). Cundinamarca: Cuatrecasas 5010 (N), 9642 (W--1795904); Haught 5775 (N); Killip 34148 (N). Department undetermined: Linden 1302 (Br--isotype, N--fragment of isotype, N--fragment of isotype, N--photo of isotype, W--1473226--isotype, Z--photo of isotype).

PAEPALANTHUS PILIFER (Bong.) Kunth

Additional citations: BRAZIL: Minas Geraes: L. Riedel s.n. [Serra da Lapa] (M--isotype).

PAEPALANTHUS PILOSUS (H.B.K.) Kunth

It is now evident to me that P. dendroides (H.B.K.) Kunth is a synonym of this species. F. L. Herrera, Sinopsis de la Flora del Cuzco 1: 170 (1941) cites P. pilosus from Puno, Amazonas, and Huánuco, as well as from Cuzco, Peru. It has been collected in moist sphagnum, wet open places, dry grassy paramos, base of mountains, and dry rocky gneissitic-granitic slopes, forming mats, at altitudes of 2285 to 4000 meters, blooming in March, April, and September.